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# Worldwide Report

TELECOMMUNICATIONS POLICY,  
RESEARCH AND DEVELOPMENT

No. 185



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WORLDWIDE AFFAIRS

BRIEFS

BULGARIAN, IRAQI COMMUNICATIONS AGREEMENT—A cooperation agreement between Bulgarian Radio and the main administration for radio and television of the Republic of Iraq was signed today. On the Bulgarian side, the agreement was signed by [name indistinct], deputy director general of Bulgarian Radio, and on Iraqi side by [name indistinct], director general of the Iraqi main administration for radio and television. The agreement seeks to deepen and expand the existing (?friendly) relations and to exchange various materials connected with the national holidays of the two countries, anniversaries and other developments. It also includes (?daily broadcasts) of events connected with the sociopolitical life, industry, agriculture, science, culture and sports, as well as musical artistic performances and others. An agreement and a working protocol on cooperation for 1981-1983 between Bulgarian television and the Iraqi main administration for radio and television was also signed today. The document was signed by Ivan Slavkov, director general of Bulgarian television, and by [name indistinct], director general of the Iraqi main administration for radio and television. The bilateral cooperation provides for an exchange of television films, joint film productions, meetings, cultural and other broadcasts. This document also provides for the broadcasting of television films devoted to the 1,300th anniversary of the Bulgarian state, the 100th anniversary of Georgi Dimitrov's birth, the "banner of peace movement" and to the national holidays of the two countries. [Text] [AU221230 Sofia Domestic Service in Bulgarian 0900 GMT [date indistinct] Sep 81]

QATARI-SPANISH TELEPHONE LINK--A responsible source at the Communications and Transport Ministry has announced that a direct telephone line with Spain was established today. The establishment of this new line comes within the ministry's plan to link Qatar with other countries through direct telephone means. [GF061316 Doha QNA in Arabic 1040 GMT 6 Sep 81 GF]

CSO: 5500/4701

BRIEFS

PRC-TAIWAN COMMUNICATIONS PROPOSAL--Beijing, 8 Oct (XINHUA)--The Ministry of Post and Telecommunications is ready to open air and sea postal routes between China's mainland and Taiwan to facilitate direct exchange of postal services between the two parts of China, Minister Wen Minsheng has announced. The ministry will also avail itself of earth satellite facilities to start direct telecommunication services between Beijing and Taipei (Taipei), the minister said. In response to Chairman Ye Jianying's September 30 statement on China's peaceful reunification, Wen Minsheng said, the ministry is willing to hold talks with its counterpart in Taiwan on the starting exchange of service at the date and place chosen by both sides through consultation. [Text] [OW080728 Beijing XINHUA in English 0710 GMT 8 Oct 81]

YONHAP-ASEAN LINK--Seoul, 1 Oct (YONHAP)--The YONHAP NEWS AGENCY started Thursday the transmission of news stories to four news agencies of ASEAN--ANTARA of Indonesia, BERNAMA of Malaysia, PNA of the Philippines and TMA of Thailand--and to the PRESS TRUST OF INDIA. The multilateral news exchange was in accordance with an agreement signed in Bangkok September 11 by delegates of the four ASEAN news agencies and YONHAP during the fifth meeting of the ASEAN news agencies. Under the news exchange agreement, YONHAP exchanges news stories with other participating news agencies through the computer terminal in Manila, and other materials, including features and photos, for more direct flow of information. YONHAP maintains bilateral news exchange with news services in North America, Japan, the Middle East and the Southeast Asia, but this multilateral news exchange contract is the first of its kind for YONHAP. [Text] [SK010205 Seoul YONHAP in English 0133 GMT 1 Oct 81]

CSO: 5500/2013

## TELECOM INVESTMENT MAY BE INADEQUATE TO MEET DEMANDS

Melbourne THE AGE in English 28 Aug 81 p 18

[Article by Ian Porter]

[Text]

Telecom Australia will invest \$1263 million in its communications network this year, but top management fears this will not be enough to satisfy the growing demand for Telecom services.

The amount in real terms, has not gained on that invested in 1979-80 because of the Federal Government's decision to limit Telecom's borrowings to \$320 million in 1981-82.

Telecom's acting chairman, Mr Tom May, in his business outlook summary tabled in Parliament yesterday, said the rapidly growing demand for Telecom services and the restrictive borrowing limits imposed in recent years had led to increasing congestion on telephone routes and longer delays in the provision of adequate services.

He said the restrictions on borrowings and the higher interest rate to be paid on past advances by the Federal Government meant Telecom had to rely more on internally generated funds. This is why consumer charges will rise later this year.

"It must be realised," he said, "that with a limited capital programme, improvements in the network will not be as great as desirable and there will undoubtedly be some increase in the waiting times for service, particularly in high growth areas, such

as the coastal regions of northern NSW and Queensland."

Mr May said the higher tariffs, announced recently, would lift Telecom's revenues by about 13 per cent from the 1979-80 level of \$2281 million, after taking into account an expected 13 per cent rise in the volume of business.

Part of the higher cash flow will service Telecom's interest bill, which will rise this year by \$131 million to \$525 million.

Mr May said that, outside the higher interest payments made to the Government, Telecom's outlays during the year would be similar to those of 1979-80. An important factor in this stability is a Government instruction to Telecom to shed 2000 of its 87,500 employees.

The \$1263 million investment programme will include the provision of 514,000 new telephone services, a fall of 3.3 per cent. In addition, a further 8000 Telex services would be installed and 20,000 data handling services.

The purchase of technical equipment and materials will cost \$57.0 million, of which \$300 million will go to Australian industry.

Telecom will start or continue with more than 140 projects, each worth between \$200,000 and \$10.5 million during the year. It will also continue to build, or start to build, more than 80 buildings worth more than \$250,000 each.

In 1980-81, Telecom received revenues of \$2281 million (previously \$2044 million) and made a profit of \$211 million (\$180 million).

CSO: 5500/7501

## AUSTRALIA

### NEW GUIDELINES OPEN WAY TO PUBLIC TV, COMMUNITY STATIONS

Canberra THE WEEKEND AUSTRALIAN in English 29-30 Aug 81 p 1

[Article by Ted Knez]

[Text]

THE Minister for Communications, Mr Sinclair, yesterday pointed the way towards major changes in Australian television, including the licensing of scores of community stations designed to give special interest groups direct access to the electronic media.

Mr Sinclair's unsignalled announcement disclosed in draft guidelines laid before the ninth conference of the Public Broadcasting Association, are the first indication that the future of public television is no longer on the shelf.

Curiously, for it would have been an ideal occasion to relay his views, the minister made no significant reference to the granny of public television, the Australian Broadcasting Commission, for whom a major shake-up has been sought by the Dix committee of inquiry. Canberra has yet to deliver an opinion on that.

#### SHARING

Nor did Mr Sinclair give any indication as to who would pay for community television, beyond stating that it would not be the Government and would have to be "self-financed". And the minister ruled out the possibility of paying for it by taxing existing commercial networks or stations.

The Government's proposals include allowing several public broadcasting companies to share the same television channel. But this idea of channel sharing requires major

changes to the Broadcasting and Television Act - another move foreshadowed yesterday by the Government.

Mr Sinclair emphasised that further consultation would be necessary but the provisional ownership options included:

- Individually licensed public television corporations sharing a channel with other broadcasters - a concept known as channel sharing.
- The provision of public programs on a public television station operated by a single licensee on its own channel.

Mr Sinclair said once the guidelines were finalised interested groups could begin developing firm proposals for public television services.

Public television - a boon for viewers in the US - provides special interest channels, televising programs such as continuous news, current affairs or cultural shows.

US public television stations are variously financed, but mainly by corporate sponsorship and public subscription.

But Mr Sinclair dashed all hopes for significant government financing of public television here, urging potential broadcasters to follow the US example.

He said public television would have to be "self-financing" but acknowledged that in the short term there could be joint projects with State governments, the ABC and even commercial licensees.

On the development of public television, Mr Sinclair said he expected that channel share would play a major part, requiring changes to the Act.

## DISADVANTAGES SEEN IN LOCAL USE OF U.S. CABLE TV SYSTEM

Canberra THE AUSTRALIAN in English 1 Sep 81 p 25

[Article by Ian Cannon]

[Excerpt] - JUST five weeks before the start of a public inquiry, evidence is mounting which strongly suggests Australia would be most unwise to introduce the US system of cable television.

While more than 20 million American households are already wired for cable TV using traditional copper wiring, this technology is about to be superseded by two others - direct satellite broadcasting and fiber optic cables.

Use of these systems would save Australia millions of dollars as well as being far more efficient and flexible than the outdated copper cable system.

But there is great danger that the Australian Broadcasting Tribunal might jump the gun and opt for an early start of the US system of cable TV following its national inquiry which opens in Sydney on October 7.

Many of the 170 submissions received so far from the tribunal are

known to favor introducer of the American method led by commercial interests such as Henry Jones (IXL) and a host of overseas suppliers.

Experts agree it would take about five years to get cable TV going in Australia and that the new technology of direct satellite broadcasting would be available soon after the domestic satellite becomes operational in 1985.

Yet the tribunal's terms of reference make no mention of the satellite and are otherwise outdated.

Its reference 10, for example, is concerned with protecting Australian content - but enterprising people are already making their own dishes for direct broadcasting and are poaching programs from satellites.

Two noted authorities believe the Australian Broadcasting Tribunal should forget the US system of cable transmission.

International cable TV consultant Mr I. Switzer estimates it will cost

more than \$3000 million to set up the system - by which time it will be outdated by fibre optics.

The introduction of cable TV to Australia would require a massive outlay of capital - provision of a cable service to three million Australian houses would need 30,000 miles of cable system.

"If the plant were built under ideal, low-cost conditions, it would cost at least \$10,000 a mile or a total \$300 million," he said.

The likely figure is at least treble that amount just for the distribution plant.

### POWERFUL

"Service drops and corporate infrastructure would be additional and much of the country would have lower urban densities and higher per mile costs."

Mr Switzer said that by 1985 when this money had been spent and Australia's towns and cities were finally cabled with US-style coaxial cable systems, the system would be obsolete.

CSO: 5500/7501

## GOVERNMENT APPROACH TO COMPUTERS, TELECOMMUNICATIONS HIT

Canberra THE AUSTRALIAN in English 8 Sep 81 p 33

[Text]

MAX Burnet general manager of DEC in Australia has slammed the Federal Government's muddled approach to the local computer industry.

"As the computing industry becomes bigger and more visible, it is becoming a political hot potato," he said.

The year just passed saw a great degree of turmoil at the national level in all aspects of computing, telecommunications and packet switching legislation.

Mr Burnet was addressing the recent DEC Users' Society (Decus) symposium at Griffith University in Brisbane.

He recounted the major happenings affecting the computer industry in the past 12 months as follows:

- IN June 1980 the Australian Government extended the Buy Australian policy to all Commonwealth authorities.
- DURING the year we had many power blackouts and telephone strikes which sent suppliers and users scrambling for better software and backup facilities.
- IN August 1980 the CSIRO announced it would set up a chip development facility headed by Craig Mudge from DEC.

- IN September a consortium of Australia's top companies got together with IBM to form Business Telecommunications Services as a satellite and communications lobby group.

- AT the end of the year the Joint Management Review Committee was set up to inquire into Government purchasing procedures.

- TELECOM set up a Commercial Services Department.

- THE Sydney Chamber of Commerce set up an Australian telecommunications users group.

- THE ownership of Australia's first satellite became a hot issue.

- THE Department of the Capital Territory proclaimed that National Semiconductor would set up a big chip facility in Canberra. National Semiconductor said it would do a feasibility study.

- MYER stores moved into videodisc technology with the Canadian Telidon system.

- THE Raser Gang report said Government should use more outside computing consultants.

- ON May 25 the De-

partment of Business and Consumer Affairs imposed a 21 per cent duty on word processors and a 6 per cent duty on computers with less than or equal to one megabyte of memory. "Duty on computer spares was also complicated beyond belief."

- IN June 1981 Telecom selected the French Transpac system for its packet switched network.

- ON July 31 the 21 per cent duty on word processors went back down to 6 per cent.

- IN August the Government came full circle and said the Australian preference policy need no longer apply for Commonwealth purchases.

- AND to finish off the year Mr Howard has increased sales tax from 15 to 17.5 per cent.

"So one could fairly say that we are part of an industry in turmoil," Mr Burnet told Decus delegates.

He attacked the present duty situation.

"Any system with a central processing unit that is imported with less than or equal to one megabyte of memory is dutiable at 6 per cent."

"If it has more than one megabyte it is 2 per cent."

The Government's reason for this, he said, was a claim by local manufacturers that they could make small computers.

"But an examination of these manufacturers shows they are generally specialised into certain markets, small in size and mostly assembling imported sub-units.

"We believe it is unfair to penalise the great bulk of computer users with a duty that does nothing to help local manufacturers who could not possibly supply the needs of the whole market.

"Specific bounties or grants to local companies are a much better solution," Mr Burnet said.

He noted that the import of add-on disc drives, tape drives or printers incurred a 2 per cent duty while all other items were 6 per cent.

"Whatever the duty rate, the Customs Department is asking us for IDMs - illustrated descriptive material - for every single consignment.

"This is adding an immense burden of paperwork and extra delays to the delivery process."

The spare parts area was an even greater nightmare, Mr Burnet said.

"Before May 1981 all computer spares came in under a blanket 2 per cent.

"Now every item has to be accurately classified and have varying rates of duty applied to it.

"Our semiconductors have gone from 2 to 35 per cent, for example.

"All in all, I hope you will understand these problems are making it tough to improve our service to you, and certainly introducing delays into the system," he told delegates.

But in business terms the past year had been another good one for DEC, with all market segments very active, Mr Burnet said.

"Our sales and service revenue in Australia rose to \$60 million and in New Zealand to \$NZ10 million (\$7.2 million)."

The VAX family continued to set the standard in superminis, he said.

CSO: 5500/7501

## COMMUNICATIONS MINISTER REPORTS PLANS, POLICY

New Delhi PATRIOT in English 8 Sep 81 p 5

[Text]

**INFORMATION and Broadcasting** Minister Vasant Sathe assured the Rajya Sabha on Monday that the Government would be able to put the official media to the maximum use for the promotion of national integration, if the Opposition offered to fully cooperate with it, reports PTL.

He also assured the House that the Government was keen to continue the experiment made before the last budget session of Parliament providing opportunity to Opposition leaders to express their views through the official media.

Mr Sathe said that it had been decided to set up a channel for national broadcasting service with a 1,000 KW medium wave transmitter at Nagpur for relaying regional and national programmes and also programmes connected with national integration and unity.

Replying to questions by Mr N P Shah, Mr Gurudev Gupta, Mr J K Jain and others, Mr Sathe said that AIR also had plans, after the commissioning of INSAT-I for the 'net-working' of stations with the main uplinking facilities at the Delhi, Bombay, Madras and Calcutta stations.

Several members complained that even after 34 years of independence, people in the border areas in the North East and Kashmir were not able to listen

to Indian news because of weak transmitters.

The Minister said that the Government was making efforts to install more powerful radio transmitters in border and other areas in the country.

**TRANSMITTERS**

Two such powerful transmitters of 200 KW each were being installed in Kashmir which would enable the Indian news and other programmes to be heard in the remote parts of the State.

Mrs Hemlata Habibullah complained that 'very bad' films on sex and violence were being shown on TV with disastrous effect on youth and urged the Minister to show films based on stories by reputed writers.

Mr Sathe said that TV was showing such films. He however, assured the member that her suggestion would be borne in mind.

In reply to a supplementary by Mrs Kanak Mukherjee the Minister denied that any discrimination was made while selecting opposition leaders for a programme on official media.

On the last question, he said effort was made to invite Marxist leader, but none of them could be contacted. "There is absolutely no question of any discrimination."

The Minister also informed the House that the government is considering various timing of Hindi language programmes

from Hindi stations of AIR.

He told Mr N K Bhat in a written reply that the Hindustani Kalpvriksha Samiti, Gadarwagar (Maharashtra), has made a request for increasing the duration and variety of broadcasts and telecasts in Hindi either through separate stations or other wise.

**SMALL PAPERS**

No specific amount was earmarked for small newspapers in the advertisement budget of Rs 260.5 lakh for 1981-82 of the Directorate of Advertising and Visual Publicity (DAVP) the Minister told the House.

However, in 1980-81 the share of small newspapers had increased to 25.70 per cent of the DAVP budget, Mr Sathe told Syed Sharhabuddin in a written reply.

He however, denied allegations of malpractices and favouritism in assigning production of TV features, documentaries and films to outsiders.

He told Mr N P Mehta that the allegations are 'false malicous and baseless'.

Referring to the award of one lac for producing certain films to a Lucknow firm headed by Mr R K Mishra, the Minister said he had no connection with any business firm. He had been producing TV films since 1976.

He told Mr Shyamant Verma that there was neither any 'black list' nor a 'small list' barring them from TV and radio programmes 'nor would there be any'.

## SPACE DEPARTMENT REPORTS 10-POINT DEVELOPMENT PLAN

New Delhi PATRIOT in English 14 Sep 81 p 7

[Text]

The Department of Space has embarked on a 10-point developmental programme to strengthen the space technology base in the country in current decade and achieve self-reliance.

The main thrust of the programme is to develop an Indian Remote Sensing (IRS) satellite for effective utilisation of remote sensing technology and promote establishment of a national natural resources survey and management system.

The IRS satellite system would be specifically tailored to the needs of Indian resources survey and management, with stress on agriculture, water management, forestry and mineral technology. And co-operation with the national user agencies which has been established in the past three years will be further strengthened.

While the IRS satellites will be developed and built in the country, the first launch is likely to be from abroad.

Following are the 10-point space developmental programme for the decade.

To intensify research and development efforts in space applications

— especially in resources survey and management, communications, Meteorology, and explore new areas of space applications of national relevance.

To develop an Indian Remote Sensing (IRS) satellite.

To accelerate indigenisation of the spacecraft of the INSAT (Indian National Satellite) system to replace the imported first generation space segment of INSAT.

To develop, the various applications payloads, among others, for the IRS and indigenous INSAT spacecraft.

To improve rapidly the technology and payload capabilities of the SLV-3 launch vehicle, develop its variants for enhanced application of technology, science payloads and conduct their launches. A crucial element of this objective is to develop India's launch vehicles to place the IRS satellite of 800 kg class in polar sun-synchronous mission from Indian ranges.

To conduct studies and exercises aimed to acquire launch capability for geo-synchronous missions (such as communications, meteorology) and other space applications missions for national needs.

CSO: 5500/7195

## BRIEFS

TAP-PROOF COMMUNICATIONS EQUIPMENT--New Delhi, Sept 4--Telephone tapping is virtually impossible with a portable communications equipment built by scientists of the National Aeronautical Laboratory (NAL) in Bangalore. It uses a laser beam to carry the voice instead of a pair of wires. Pictures and data can also be sent using the laser communicator. NAL said its "optical voice data communicator" has been designed for communications over short distances of up to 3 km. This is limited by the power of the laser which is only 10 watts. The system is eye-safe and portable. It uses a gallium arsenide laser which puts out an infrared beam to carry the voice or pictures. "As the system is radio silent and uses invisible infrared radiation it can be used by the Navy to secure ship-to-ship communications," NAL said. The narrow laser beam makes tapping by unauthorised receivers very unlikely. With some modifications the system can be used for communication across runways and inaccessible terrain. Only line-of-sight communication is possible with the NAL equipment. But NAL said it has extended the project so that the laser beam can be sent along any path with the help of glass fibres as thin as hair. This is, however, not the first time that line-of-sight laser communication was used in India. For reasons of security during the Pokaran nuclear test, scientists at 'ground zero' used laser telephone to talk to the control centre 4 km. away. PTI [Text] [Madras THE HINDU in English 5 Sep 81 p 6]

NEW RADARS DEVELOPED--The Hindustan Aeronautics Limited (HAL), Hyderabad, has successfully developed two sophisticated types of radars, the Lok Sabha was informed on Wednesday, reports PTI. The production of those radars--the Air Route Surveillance Radar (ARSAR) and the Precision Approach Radar (PAR)--will commence during the current year itself Minister of State for Defence Shivraj Patil told Mr Chintamani Jena in a written reply. [Text] [New Delhi PATRIOT in English 13 Sep 81 p 5]

INSAT SATELLITE PROGRAM--Deputy Minister for Information and Broadcasting Miss Kumud Joshi has said that six states, including Gujarat, will be covered under the INSAT satellite program to be commissioned in 1982. Addressing a news conference in Ahmedabad on 30 September she said four broadcasting bands are being purchased for color TV coverage for the Asian games. This will cost about 80 million rupees. [BKO40925 Delhi Domestic Service in English 1530 GMT 30 Sep 81]

SATELLITE LAUNCHED FROM SOVIET COSMODROME--India's second satellite for earth observation, Bhaskara II, will be launched from a Soviet cosmodrome in the middle of next month. A team of Soviet scientists headed by Dr Nabikov, vice chairman of the Soviet Intercosmos Council, is now in the country to conduct tests jointly with Indian space scientists on the flight of the satellite. The flight model is an improved version of Bhaskara I. It will have a two-band television camera system and a three-frequency radio meter on board. [Text] [BKO50130 Delhi Domestic Service in English 1530 GMT 4 Oct 81]

CSO: 5500/2013

**PLAN TO FABRICATE PAKISTANI SATELLITE**

Karachi DAWN in English 19 Sep 81 p 4

[Text] Pakistan has taken the first steps towards the eventual launching of a telecommunications satellite that will form the basis for a modern nation-wide radio-cum-television and scientific data relay system.

Reliable sources told APP that it was planned to both purchase abroad and fabricate within the country various components of a complete telecommunications system consisting of an orbiting satellite and a number of ground transmitting-cum-receiving stations.

According to the tentative schedule, the telecommunications satellite is to be launched in about five or six years time with the cooperation of either the U.S. National Aeronautics and Space Administration (NASA) or the European Space Agency (ESA).

Scientists and technicians of the Pakistan Space and Upper Atmosphere Research Commission (SUPARCO) will fabricate the various components of the system that are to be built within Pakistan.

Once assembled, the satellite will be placed into orbit on a NASA or ESA rocket, after a commercial agreement is reached with one of these two agencies. (Both NASA and ESA have fixed commercial charges for providing these services to countries unable to launch their own satellites).

Pakistan is approaching the International Telecommunications Union (ITU) to allocate a frequency and reserve a geo-stationary orbital position for the satellite above the earth's equator.

The sources said that Pakistan's application was likely to come up for consideration at the next ITU meeting in Geneva, which is scheduled to take place before the end of this year.

The ITU is one of the specialised agencies of the United Nations, and among its other responsibilities is the allocation of frequencies and orbital positions for satellites launched by various countries.

The sources explained that reservation of a position in the geo-stationary orbit around the earth's equator was not so simple as it might seem at first glance,

since such positions are limited in number due to technical reasons, and are much sought after by various countries, the list of which is constantly growing.

The geo-stationary orbital position enables a satellite to maintain a constant position over a particular spot on the earth and this has obvious advantages for communication purposes.

A satellite in the geo-stationary orbit circles the earth exactly above the equator at a height of about 22,300 miles (around 33,800 kilometres) and a speed of about 6,900 miles per hour.

Since the earth revolves at a speed of around 1,000 miles per hour at its equator, a satellite circling the earth at the above height and speed will appear fixed to an observer on the ground below. Such an orbit is referred to as a "geo-stationary orbit".

This enables an easy flow of signals to the satellite from the revolving earth beneath, and their amplification and subsequent relay to the receiving country from the satellite, ensuring uninterrupted 24-hour two-way communications.

There is no other orbital position aside from the "geo-stationary" one, that permits this kind of link between a telecommunications satellite and the recipient country.

By the nature of things, the number of satellites which can be allocated positions in a "geo-stationary orbit" is limited, especially since they have to be placed at some distance from one another in order not to interfere in each others' frequency range.

Pakistan has prepared a detailed case regarding its need for a telecommunications satellite in the geo-stationary orbit for consideration by the ITU at its forthcoming meeting.

Suparco chairman, Mr. Salim Mehmood, in a recent speech before the U.N. Committee for the Peaceful Uses of Outer Space in New York, referred to this issue and reflected the concern felt about it among Third World countries.

He said "the geo-stationary orbit is a limited natural resource."

Continuing, he stated that "in view of its importance, and the increasing demand leading to saturation of this orbit, there is a concern, particularly among the developing countries, for ensuring equitable access to this orbit" by all nations of the world.

A telecommunications satellite with the necessary number of fixed and mobile ground receiving-cum-transmitting stations, will enable round-the-clock instantaneous communications (both radio and TV) between all parts of the country, including such otherwise difficult-of-access areas as the mountainous northern regions and remote parts of Baluchistan.

A telecommunications satellite is powered by solar batteries, which consist of large silicon crystal panels that collect sunlight and convert it directly into electricity through the "photo-voltaic" effect.

The satellite is equipped with a number of antennas--both parabolic and dish-type--which are used for a number of purposes and are capable of receiving and transmitting signals from and to the earth.

An ordinary telecommunications satellite system can receive and transmit radio and TV signals on different channels and frequencies and has besides over 10,000 two-way long distance trunk telephone circuits.--APP

CSO: 5500/4501

PAKISTAN

SUPARCO OFFICIAL COMMENTS ON COMMUNICATIONS SATELLITE

GF281235 Karachi NAWA-E-WAQT in Urdu 21 Sep 81 p 1

[Text] Karachi, 20 Sep--Mr Saleem Mahmood, director of SUPARCO, the Space and Upper Atmospheric Research Commission has said that when the first Pakistani communications satellite is sent into orbit, Karachi and Lahore television programs will be seen simultaneously by viewers.

In an exclusive interview to a NAWA-E-WAQT correspondent he said that the communications satellite would cost 60 crores of rupees. He added that two channels have been reserved for television in the satellite and with its help one-third of the world's population will be able to view Pakistan's television programs. According to Mr Saleem Mahmood, the waves from a communications satellite are very powerful and cannot normally be used for television, but latest scientific inventions have facilitated domestic signals that allow viewers to see international television programs easily.

He told our correspondent that the domestic signals (?local boosters) would cost 5,000 rupees each and would be manufactured in Pakistan with the assistance of SUPARCO, which has made some on an experimental basis that have appeared on the European market. He also said that the communications satellite would be launched in March in collaboration with NASA, the U.S. space organization, and will greatly improve television reception. He said that India will be sending its second communications satellite up in 1983. In reply to a question he said that with the launching of Indian satellites, Indian television programs will be seen in all parts of Pakistan. About the advantages of Pakistani's space linkup, Mr Mahmood said with the help of 7,000-8,000 telephone lines, all the exchanges of Pakistan will be linked and television programs will be seen even in the remotest areas behind the mountains. It will take about 6 years to send the satellite into space.

CSO: 550/2003

PAKISTAN

BRIEFS

MICROWAVE SYSTEM--Quetta, Sept 14--A microwave radio relay system is proposed to be installed at an estimated cost of Rs 255 million including Rs .98 million foreign exchange component to provide reliable telecommunication facilities along the coastal parts of Pakistan and in the interior of Baluchistan. Under this system Karachi will be linked with the coastal towns of Ormara, Pasni, Gwadar and the districts of Uthal and Turbat in one direction, in another direction microwave system will be connected between Karachi and Quetta via Khuzdar and Kalat. The system will take three years to complete from the date of its installation.--PPI [Text] [Karachi BUSINESS RECORDER in English 15 Sep 81 p 3]

CSO: 5500/4502

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

NATIONAL COMMUNICATIONS SEMINAR—The China Electronics Society and the communications network committee of the China Communications Society recently sponsored a national seminar on remote area comprehensive communications network in Hohhot, Nei Monggol. The seminar approved a letter of suggestion to be submitted to leading organs. The letter of suggestion called for early implementation of the 1970 plan for installing microwave circuits between Beijing and Hohhot so the people in Nei Monggol can watch Beijing television programs. It also asked for more funds for building communications networks in remote areas. Nei Monggol regional leading persons, including Ting Mao, Wang Duo, Kong Fei, Bu He, Zhou Beifeng, Chen Bingyu and Li Binsan, met with the delegates. Wang Duo, permanent secretary of the regional CCP Committee, held discussions with (Li Zhongcheng), vice chairman of the Council of the China Electronics Society and president of the Postal and Telecommunication Institute of the Ministry of Posts and Telecommunications, and (Bian Gong), director of the Scientific and Technological Bureau of the Fourth Ministry of Machine Building. [SK271024 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Sep 81]

HEILONGJIANG COMMUNICATIONS FACILITIES--In the past few years, communications facilities have been developed in the reclamation areas of Heilongjiang Province. The communication facilities are composed of a carrier, facsimile and telephone conference communications network with wire communications as the principal mode and wireless communications as the subordinate mode. The length of the communication lines is 20,000 km. About 90 state farms in the province have carrier and facsimile communications facilities. [SK020824 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 1 Oct 81]

CSO: 5500/4001

PLANS TO UPGRADE TELECOMMUNICATIONS REPORTED

SK030538 Seoul THE KOREA HERALD in English 3 Oct 81 pp 1, 3

[Text] The Ministry of Communications said yesterday it is studying a plan to build a supermodern telecommunication facility by 1986 to ensure the fast worldwide coverage of the 1988 summer Olympics in Seoul.

The ministry said it is considering building the international facsimile network that will enable world families to watch the Seoul Olympics simultaneously with the Korean people.

Saying the channels for communication through international telecommunication satellites (INTELSAT) IV and V will be increased annually to reach 1,172 channels in 1987 from the present 328, the Ministry said the satellite communications will be greatly improved.

The ministry said it will build the No 4 earth station, adding to the existing Nos 1, 2, and 3 earth stations, for operation from 1985 at a total cost of 6,600 million won (about \$10 million).

Presently, the No 1 station is linked with the Pacific Ocean satellite and the No 2 station is connected with the Indian Ocean satellite.

Both stations are enabling the global satellite telecommunication and live TV coverage from around the world.

The No 3 station, which has existed but was not known to the public, is for standby just in case of trouble with either of the other stations.

The No 4 earth station, to be built, will be linked with the INTELSAT V floating above the Pacific Ocean. It is to provide about 3,000 fully automatic electronic switching method overseas telephone lines.

Presently, a total of 549 overseas telephone lines are operated by semiautomatic method.

A total of 4,200 million won (about \$6 million) would be used to build the nationwide DDD (Direct Distance Dialing) network by 1987.

The international telex lines will be increased to 1,508 circuits in 1986 from the present 485 lines. The ministry said it estimates the demand by about 5,000 journalists for the telex lines will be great for reporting on the Seoul Olympic Games.

The international facsimile lines will be more than 40 circuits from the present one circuit used with Japan. The facsimile will enable the Seoul Olympics to be seen live around the world, the ministry said.

The ministry said that it has not decided on the necessity of its own separate communications satellite for the Seoul Olympics, adding that it should await consultation with the yet-to-be-formed Cabinet-level Olympic Organizing Committee (OCOG).

The ministry said that in general the implementation of the communication modernization project laid down in the government's fifth five-year economic development plan will be enough for the communication needs for the Seoul Olympics.

CSO: 5500/2013

BRAZIL

GOVERNMENT THREATENS SHUTDOWN OF SOME RADIO STATIONS

Rio de Janeiro O GLOBO in Portuguese 3 Sep 81 p 12

[Text] Brasilia (O GLOBO)--The Ministry of Communications will shut down all medium wave radio stations, which have not adjusted their equipment to the technical standards in effect since 1976, by 31 December. At this time nearly 30 percent of the medium wave broadcasting stations, that is, more than 450 radio transmitters, are not meeting the standards fixed by the government.

The shutdown of the broadcasting stations is considered a closed question in the Ministry of Communications because the government assumed international commitments to regulate all the stations so as to prevent the generation of interference inside and outside the country. Moreover, in 1982, the International Telecommunications Union located in Geneva will be informed on the status of those transmitters.

The regulation of the stations within the basic medium wave plan is considered urgent because Brazil needs to use all the frequencies allocated to it through international agreements. If the country does not manage to regulate all the stations, it could lose some of the frequencies.

In the last two years, the National Telecommunications Department (DENTEL) has carried out a campaign urging broadcasters to take the necessary measures. However, as of last June, it began to punish violators. More than 200 medium wave stations were warned or punished throughout the country from that time forward.

Among the technical requirements established by the Ministry of Communications are: The use of transmitting equipment which does not radiate interference; the use of antennas with radial systems; the siting of transmitters in large fields and compliance with labor safety standards, among others.

The Regional Administrative Medium Wave Broadcasting Conference will be held in Rio in November. It will gather representatives of all the countries of the three Americas. In this meeting, all the technical standards for medium wave stations will be ratified and will subsequently have the force of law in the various American countries.

8908  
CSO: 5500/2314

## BRAZIL

### MAIN 1981 ACHIEVEMENTS IN COMMUNICATIONS REVIEWED

Rio de Janeiro JORNAL DO BRASIL in Portuguese 16 Sep 81 p 17

[Text] The Brazilian Telecommunications Company—EMBRATEL—commemorates its 16th anniversary today. During 1981 several economic and social factors oriented the conduct of the company so that an effort was made in all areas to prevent financial problems from interfering in programs of personnel training and advanced training, primarily in the area of data transmission and the development of the telecommunications services of the country. Therefore, despite restrictions, the year can be considered as very gratifying, particularly because of the goals reached thanks to the efforts of the almost 9,000 employees of the company.

During the course of the year EMBRATEL was able to finish several projects which were the result of prior investments, at the same time that it sought to develop its experience in the field of digital systems more and more. Priority has been given to the latter aspect because from here on communications will be handled more intensively by means of digital technology. It is here that data transmission comes into play, the merging of telecommunications with data processing, a field in which the company also seeks improvement, inaugurating new data communications systems and expanding those already existing (Transdata and data communications by means of the telephone network). Undoubtedly the approval of the Brazilian Domestic Satellite project opens broader perspectives for EMBRATEL as a Brazilian data communications company, since a larger area than that of today may be reached and there will be an increase in traffic handling capacity.

The year began with the inauguration of Direct International Dialing—DDI—from Portugal to Brazil (2 February), with the participation of President Joao Baptista de Figueiredo—in Lisbon at that time—and Minister of Communications Haroldo Correa de Mattos. Up to that time there was direct dialing only from Brazil to Portugal. Traffic from there to here was possible through telephone operators. This now allows Brazil to have DDI with a total of 56 countries and by the end of the year it will be able to increase that number to 66 countries.

The reduced rate system of calls from Brazil to Uruguay went into effect on 1 April as a result of an agreement between EMBRATEL and ANTEL [National Telecommunications Administration of Uruguay].

The Altamira earth station for domestic communications via satellite was inaugurated 14 May. Three other stations are already operating on a test basis this year: Itaituba, Alta Floresta and Sinop, all of them in the Amazon Region. All together, 14 of the 20 earth stations scheduled to be built to take care of the Amazon Region are already in place. Only those of Tabatinga, Tefe, Coari, Fernando de Noronha, Tarauaca and Amapa have not been initiated. Almost all are located in the Amazon Region, with only the exception of Tangua-III in Rio de Janeiro, through which domestic traffic via satellite is controlled, and that of Camp Grande, Mato Grosso do Sul. The rest are in Cruzeiro do Sul, Rio Branco, Boa Vista, Oiapoque, Macapa, Porto Velho, Manaus and Santarem.

A new data communications service using the Public Telephone Network was initiated last 29 May. Two important political events took place in June: The chief of the EMBRATEL office in Washington, Pedro Castelo Branco, was elected chairman of the board of governors which administers the international consortium of the satellites—INTELSAT--on 5 June; the second event was the election of Francisco Perrone, assistant chief of the International Directorate of EMBRATEL, to be chairman of another international organization, INMARSAT, a consortium for maritime communications satellites, of which Brazil is one of the largest participants. In addition to those two posts, a third, also of great international dimensions in the field of telecommunications, is already held by the international director of the company, Daltron de Magalhaes, who is chairman of the Atlantis Submarine Cable Consortium, whose system will connect Brazil with the countries of Africa and Europe via Recife.

The result of the bids for providing, installing and giving technical assistance for the equipment which will make up the Time Leasing Net, was revealed on 12 June. This is a new data communication service of EMBRATEL. The purpose of this net is to offer a cheaper service to companies who do not need the permanent leasing of a channel for the transmission of data, which is the case of Transdata. Rates are charged only for the time the service is used. It is expected that the Time Leasing Net will go into operation in the second half of 1982.

The Victoria-Salvador and Salvador-Fortaleza microwave trunks were also inaugurated on 26 June, increasing the availability of traffic channels for the telephone, telegraph, facsimile, television and data services between the northeastern and southern parts of the country. In the future the Salvador-Fortaleza trunk will make linkage with Recife possible through another high capacity trunk, the Salgueiro-Recife. This system as a whole (Victoria-Salvador-Fortaleza), will allow the movement of international traffic originating from the submarine cables: the Bracan (Brazil-Canary Islands) with terminal in Recife; Brus (Brazil-U.S.) with a terminal in Fortaleza, and in the future, the Atlantis, with a terminal in Recife.

The International Airway Data Communications System—Airdata--another EMBRATEL service in the area of data transmission, was inaugurated on 10 August. This service is for air transportation companies which operate in Brazil with international airlines. Its main purpose is to speed up information on passenger reservations, availability of flights, schedules and routes to any part of the world, thus providing the users of that type of transportation with any information that may be of interest to them in a matter of seconds. In addition, it facilitates the movement of administrative messages of the airline companies themselves.

On the 25th of this same month, the agreement on the exploitation and establishment of rates for international telephone services between Brazil and Colombia was signed. This made it possible for calls between the Amazon Regions of Brazil and Colombia to be reduced around 37.2 percent.

The International Telephone Call With Interpreters System was initiated 15 September in Recife, within the programs of the 16th anniversary celebration of EMBRATEL. It is an unprecedented idea in the entire world. This service has 24 interpreters available 24 hours a day for the translation of conversations in English, French, German, Italian and Japanese, thus facilitating understanding in the fields of medicine, health, science, technology, education and social matters.

EMBRATEL also carried out many expansions in the field of telephony, telegraphy and television from January to July of this year in the area of national operations. Expansions were accomplished in the telephone centers of Vitoria, Sao Luis and Maceio, in addition to the installation of the telephone centers in Porto Velho, Curitiba and Vitoria. Expansions were also accomplished in the telephone centers of Porto Alegre, Salvador and Rio de Janeiro. In the area of telegraph switching, expansions were made in the centers of Brasilia, Salvador, Curitiba, Belem, Belo Horizonte, Porto Alegre, Florianopolis, Blumenau, Uberaba, Cuiaba, Campinas, Caxias do Sul, Santa Maria, Maceio, Teresina, Presidente Prudente and Fortaleza. There was also the installation of television centers in Joinville and Lages.

The telephone centers of Belem, Porto Velho, Brasilia, Porto Alegre and Florianopolis will be expanded by December. The Penha and Vitoria II centers will be installed. In the field of the domestic satellite, earth stations for communications via satellite (telephony and television) will be installed in Coari, Tabatinga, Tefe and Amapa. Moreover, in the field of telegraphy, there will be expansions of the telex centers of Porto Alegre, Salvador, Curitiba, Joao Pessoa, Aracaju, Lages, Santo Andre, Campinas, Santos, Campo Grande, Cascavel, Caxias do Sul, Goiania, Londrina, Manaus, Natal and Ribeirao Preto. A subscriber center will be installed in Vitoria. There will also be the installation of an audio center in Sao Paulo and television centers in Rio de Janeiro, Sao Paulo, Belo Horizonte and Tangua.

In the national area, the following are scheduled for 1982: The installation of telephone centers in Belem and Cuiaba and the expansion of the centers of Manaus, Florianopolis, Porto Alegre, Brasilia and Porto Velho; the installation of earth stations for telephony and television via satellite in Fernando de Noronha and Tarauaca, the expansion of the Bauru-Curitiba and Vitoria-Salvador line-of-sight microwave links, and the installation of the Porto-Alegre-Florianopolis and Porto Velho-Cuiaba trunks; the installation of the EDS center of Recife for telex and the installation of a subscriber center in Porto Velho. The centers of Rio, Sao Paulo, Salvador, Brasilia and Fortaleza will be expanded and audio centers will be installed in Anapolis, Voa Vista, Belem, Penha, Corumba, Manaus, Macapa, Porto Velho, Rio Branco, Santarem and Sao Luis. Television centers will be installed in Recife, Salvador and Brasilia in 1982/83.

In the international area, immediate attention is drawn to the arrival of the Atlantis Cable to Recife 23 September, marking the beginning of the final phase of the installation of submarine cables which will link Brazil to the countries of Africa and Europe via Recife. Brazil is participating with a consortium made up of 10 countries, with the greatest share (28.65 percent) of a project costing \$250 million. The northern section of the system, which will link Europe to Africa, specifically Portugal to Senegal, is 2,930 kilometers long and has a capacity for 2,580 circuits. The southern section, which links Africa to Brazil--Senegal to Recife--is 3,430 kilometers long and has a capacity of 1,380 circuits. This system is scheduled to go into operation in August 1982. Participating in addition to Brazil, are Senegal, Portugal, Argentina, Ivory Coast, France, Italy, Germany, Great Britain and Switzerland.

Another international service, also scheduled for initiation in 1981, is the International Data Communications Circuit Leasing System. This is the leasing of a private circuit for the transmission of data similar to Transdata except that in this case it is on an international basis. There will be medium and high-speed circuits to the United States and to the principal countries of Europe.

The INMARSAT satellite for maritime communications will go into operation at the beginning of 1982. An antenna will be installed in Brazil to facilitate communications between Brazilian ships in international waters and their companies on Brazilian territory. Our country is participating in that international consortium with another 35 countries.

#### **International Data Communication Service (Interdata)**

The Interdata service will give the various sectors of the market access to data banks located abroad and which are interconnected to public data communications networks such as TYMNET and TELNET in the United States. The beginning of its commercial operations is scheduled for early 1982.

The equipment for data communications using time leasing technology (international only), which in an early phase will interconnect with the data communications equipment of a similar administration in the United States, is in the final study phase prior to being let out for contract.

#### **Service for Access to Data on Currencies and Commodities**

In order to provide access to specific data banks located abroad containing information on world financial and commodity markets, several options are being studied in terms of who it is that has the information, keeping in mind the adaptation of the data bank link to the EMBRATEL telecommunications system.

The service, which will basically serve two sectors (banking and export-import), should go into commercial operation in 1982.

#### **International Bank Data Communications Service**

The general conditions which will make possible the provision of an international service for the sending of bank messages, specifically allowing the exchange of messages between banks established in Brazil and their branches and other banks located abroad through the SWIFT world network, is in the negotiations phase between EMBRATEL and SWIFT.

BRAZIL

BRIEFS

POSSIBLE SATELLITE STATION SITE--Brasilia (O GLOBO)--Minister of Communications Haroldo Correa de Mattos said yesterday that the telemetry and telecontrol station for the future Brazilian domestic satellite "will probably be installed in Rio de Janeiro, where EMBRATEL [Brazilian Telecommunications Company], which will control it, has its headquarters." According to Haroldo de Mattos, the receiver earth stations are being manufactured in the country with completely national technology developed in the TELEBRAS [Brazilian Telecommunications, Inc] Research and Development Center in Campinas. Initially, it is expected that 22 earth stations will be needed; 11 of them are already installed or in the final phase of installation. [Text] [Rio de Janeiro O GLOBO in Portuguese 9 Sep 81 p 7]  
8908

CSO: 5500/2314

HONDURAS

BRIEFS

RADIO, TELEVISION STATIONS--The Honduran General Telecommunications Office has authorized the installation and operation of several new radio and television stations in various parts of the country, it was revealed at this autonomous organization. There are currently 105 radio stations broadcasting daily, 25 other that have permits but do not broadcast because of faulty equipment or other reasons. To these 130 stations will be added 18 more, which will begin broadcasting during the next few weeks. [Excerpt] [PA270043 Tegucigalpa Domestic Service in Spanish 1145 GMT 26 Sep 81]

CSO: 5500/2012

INTERNATIONAL AFFAIRS

BRIEFS

ISRAEL-EGYPT COMMUNICATION TALKS--Jerusalem, 22 Sep--Israeli and Egyptian delegations, made up of representatives of each country's Communications Ministry, met in Jerusalem from 20 to 22 September and held discussions on subjects related to the allocation of television channels. They also discussed various measures to attain maximum coordination to reduce, as much as possible, mutual broadcast interference. The two delegations signed a concluding statement in Jerusalem whereby a series of tests and measures to be taken by each side was agreed upon and it was decided to hold another meeting to examine the results. The delegations will meet again in Cairo at the end of October and will discuss coordination of frequencies in additional telecommunications spheres. This was stated this evening in a communique issued by the Foreign Ministry spokesman. [Text] [TA221811 Tel Aviv ITIM in Hebrew 1710 GMT 22 Sep 81]

CSO: 5500/4702

**INTER-ARAB AFFAIRS**

**BRIEFS**

'PARS', 'APS' COOPERATION AGREEMENT--A cooperation agreement in the field of information was signed yesterday between PARS NEWS AGENCY and the ALGERIAN NEWS AGENCY [APS]. The two agencies have agreed to expand cooperation to foil imperialist press conspiracies and to prevent its influence from spreading in friendly countries. [Text] (GP071308 Tehran International Service in Arabic 1100 GMT 7 Oct 81)

CSO: 5000/2013

AFGHANISTAN

BRIEFS

MORE TELEPHONES FOR KABUL.—As the city of Kabul has grown and the number of its inhabitants has increased every day, it has become urgent for the people to have more communications facilities, including telephones. With the intention of solving this pressing exigency of the people, the Ministry of Communications has installed a number of coin-operated telephone booths in the city, and the putting into service of these coin-operated telephone sets has provided a valuable service for the people. A spokesman of the Plan Organization to Expand the Urban Telephone Network and the Ministry of Communications stated: "In addition to the existing coin-operated telephone booths, 25 new coin-operated telephone booths have been installed at various points in the city and put at the service of the honorable citizens. In the event that the honorable citizens take care in protecting and maintaining these telephones, the number of telephones will be increased." [Text] [Kabul ANIS in Dari 7 Sep 81 p 4]

CSO: 5500/5518

**INCREASE IN TV TRANSMISSIONS ANNOUNCED**

LD241436 Tehran Domestic Service in Persian 1030 GMT 24 Sep 81

[Text] According to a report of the technical section of the Voice and Vision of the Islamic Republic, during the imposed war week the following steps have been taken to expand the coverage of the Vision [television] of the Islamic Republic of Iran:

Haft-Tappeh television station will use channel 6 to broadcast to Dezful, Andimeshk, Shush, Shushtar and Haft Tappeh under the coverage of the Vision of the Islamic Republic of Iran. Before the war the Vision of the Islamic Republic of Iran broadcast to these areas, but coverage had been disrupted because of the war.

Jermi television station will use channel 7 to broadcast to Dasht-e Moghan.

Khoda Afarin relay station will use channel 9 to cover border areas in the north of east Azarbajyan Province.

The relay station in (Rudabar-e Alamut) on channel 9 brings Rudbar under its coverage.

A new television station in Dasht-e Arzhan on channel 9 will broadcast Fars Province.

The television station in Farahband will broadcast in Fars Province on channel 5.

The television station in (Farayan) will broadcast to Khorasan Province on channel 5.

Roshkhvar television station will broadcast on channel 11 in Khorasan Province.

The television station Khavf will use channel 8 in Khorasan Province.

Loroegan television station will broadcast on channels 4 and 5 in Bakhtiari Va Chahar Mahal Province.

CSO: 5500/5301

## VOICE AND VISION DIRECTOR VISITS KERMAN CENTER

GF261402 Tehran Domestic Service in Persian 1030 GMT 26 Sep 81

[Text] According to the central news unit, Mr Mohammad Hashemi, director of the Voice and Vision of the Islamic Republic of Iran, this morning visited the various departments of the Voice and Vision of the Islamic Republic of Iran, Kerman Center. He reviewed present difficulties and familiarized himself with the mode of service of the employees of this center.

Mr Mohammad Hashemi, answering our colleague's question on having a second channel, said: This is a proper request that not only the people of Kerman, but also people from most of our provinces have requested. There are regions in Iran that they do not have the possibility of having a picture. As the director, I have priorities for the expansion of (?repeaters) of the Voice and Vision. We will endeavor to ensure that at least all people have use of one channel.

Mr Hashemi, answering our correspondent's question on to what extent the Voice and Vision of the Islamic Republic has been successful as a university, [as heard] said: I have tried to review the shortages with my colleagues. One of the primary shortages we are facing is that of manpower. One of the first decisions I have made is to found the faculty of the Voice and Vision of the Islamic Republic of Iran. God willing, it will soon be operational.

Regarding the elimination of technical shortages, he said: (?Sweden) is supposed to eliminate our technical shortages. A 30-month contract has been signed with this country. Therefore, the necessary steps have been taken. Referring to equipping the cities of Kerman Province and television coverage of the provinces cities by the Kerman Center, the director of the Voice and Vision of the Islamic Republic of Iran said: We have a project that, with the cooperation of technical officials, will be finished in a short period of time. Most of our projects depend on our facilities. Among our priorities are Kerman Center and boosting channel one in Kerman. God willing, it will not be long before the people see results.

Referring the repeaters in [words indistinct], he said: Following the actions taken by technical officials the (Rabar) repeater will be operational next week. The necessary action will be taken on the (Kuhbanan) repeater (?for) Voice and Vision Center. God willing, some action will be taken.

CSO: 5500/5301

QATAR

BRIEFS

SATELLITE STATION--Ahmad 'Ali Ma'rafiyah, Qatari Transportation and Communications Ministry undersecretary, has said that work will soon begin on a second satellite station. This station will operate with the satellite orbiting over the Atlantic Ocean. It is part of the ministry's plan to link Qatar with the world countries by direct telephone lines. The ministry official said the project, which will cost about 60 million Qatari riyals, has been put on international tender. Work on it will start within the next 6 months. This satellite station will facilitate direct telephone communications between Qatar and the United States, Latin America and Canada and other countries whose lines are now routed through Europe.  
[GF261314 Doha QNA in Arabic 0943 GMT 28 Sep 81 GF]

CSO: 5500/2003

INTER-AFRICAN AFFAIRS

BRIEFS

AFRICAN TELECOMMUNICATIONS NETWORK—During a meeting of technical experts held this month in conjunction with the 15th subregional conference of the African Telecommunications Union in Gaborone, Botswana, Zaire and Zambia were chosen to serve as points of interconnection in the telecommunications network between southern Africa and West Africa. According to (Jigui Samoro), the divisional officer in charge of information at the union's headquarters in Kinshasa, the countries represented at this meeting discussed the importance of connecting southern Africa and West Africa through Zaire and Zambia because of their geopolitical position. The Kinshasa-Lusaka telecommunications link is of imperative necessity because the realization of such a very important axis would make it possible for island countries like the Seychelles, Mauritius and Madagascar to have easy access to the other African subregions. Zaire and Zambia have expressed their reciprocal desire to make every effort to ensure the execution of this project. On the other hand, the third subregional conference of the union adopted many resolutions, including in particular one relating to the creation of a multinational higher institute of telecommunications in Nairobi, Kenya. [Text] [AB251150 Kinshasa Domestic Service in French 0600 GMT 25 Sep 81]

CSO: 5500/2003

GHANA

BRIEFS

TELEPHONE REPAIRS OVERDUE--Faulty cables have contributed to the breakdown of telephone communication in certain parts of the city of Accra for sometime now. For the past two weeks, some establishments, including the Graphic Corporation, Ghana Publishing Corporation and Taysec cannot communicate with other offices within and outside the capital. Mr K. Opoku-Banful, Public Relations Officer of the Posts and Telecommunications Corporation, told me in an interview that about 150 pairs of cables have become faulty but there are no spares for replacement. "Attempts are being made, however, to restore the service within the week, but this will depend on the corporation's ability to secure enough cables for improvisation," he said. Mr Opoku-Banful revealed that due to very limited resources such as cables and transport, the corporation has always had to delay work on normal fault repairs for as long as three months. [Text] [Accra DAILY GRAPHIC in English 6 Sep 81 p 1]

CSO: 5500/5603

MALAWI

BRIEFS

PHONE SERVICE ABROAD--Blantyre, Wednesday--International Subscriber Dialling Services to the United Kingdom, South Africa, Lesotho and Swaziland starts this Thursday, September 10, 1981 for subscribers connected to the Exchanges at Blantyre, Limbe, Chichiri, Lilongwe, Kanengo and Mzuzu. [Excerpt] [Blantyre DAILY TIMES in English 10 Sep 81 p 1]

CSO: 5500/5600

NAMIBIA

BRIEFS

S.W. AFRICAN TV OPERATIONAL--The chairman of the SABC [South African Broadcasting Corporation] board, Professor [Christian name indistinct] (?Van Turen) today officially handed over control of the South West African Television to the South West African Broadcasting Corporation. Overseas programs, SABC material and local news programs will be broadcast and there will be regular broadcasts in German. Apart from the SWABC's own news programs, the EWS Service will also show the SABC's TV news, but a day later. The television service will be picked up in the Windhoek and Oshakati areas. [Text] [CA021546 Johannesburg Domestic Service in English 1115 GMT 30 Sep 81]

CSO: 4700/74

SENEGAL

MINISTER INSPECTS RADIO, TELEVISION FACILITIES

Dakar LE SOLEIL in French 17 Aug 81 p 2

[Article: "ORTS Emergency Plan Highly Advanced"]

[Excerpts]--On Thursday, Djibo Ka, the minister of information and telecommunications, went to the Yeumbeul Receiving Center and the Rufisque Transmitting Center for a private visit to the OPT [expansion unknown] and Tele-Senegal technical bases for broadcasting and receiving news.

The minister first went to the Yeumbeul Receiving Center where the liaison room explained to him how the Senegal Radio and Television Broadcasting Office provides coverage of events both at home and abroad.

Before leaving this department, the technicians seized the opportunity to tell the minister that the emergency decametric-wave telephone communications between Dakar and Nouakchott are functional. The technicians mentioned that this decametric-wave contact had been desired by the Joint Commission meeting between Senegal and Mauritania at the time of the head of state's visit to that country.

Djibo Ka then visited the Dakar coast station. This station ensures, through security of maritime navigation, ship-to-shore communications as well as the transmission of weather reports to navigators. The technicians disclosed to the minister that this station is the object of a highly advanced modernization project aimed at making it more functional considering Dakar's privileged position on the West African coast. This modernization could also play a decisive role within the framework of Dakar-Marine.

In Rufisque, the minister of information and telecommunications had the functioning of the 200 kilowatt medium-wave transmitter of the ORTS Home Service explained to him. The repair of this transmitter has already begun within the framework of the ORTS emergency plan.

As for the 100 kilowatt short-wave transmitter, it is in the process of being equipped with an antenna which will enable it to function at full power. The work is already under way and TDF [expansion unknown] technicians have come for this mission, again within the framework of the ORTS [Senegalese Bureau of Radio Broadcasting and Television] emergency plan. Moreover, the minister affirmed that our country is among the best equipped on the continent with respect to

telecommunications, whether by cable, decametric waves or microwave links. Senegal's decision to accommodate the headquarters of the Panafrican Information Agency is thus well justified, thanks to OPT and Tele-Senegal, the minister emphasized.

This is why Djibo Ka declared himself to be very satisfied with the work of our technicians who plunged into work, which has been well done, at the head of state's request. He also emphasized the necessity of rigorous management and good maintenance of equipment as well as retraining of personnel.

9380  
CSO: 5500/5072

## LACK OF SPARE PARTS HINDERING TELEPHONE COMMUNICATIONS

Dar es Salaam DAILY NEWS in English 7 Sep 81 p 3

[Article by Mboneko Munyaga]

[Text] SOME telephone switchboards in Dar es Salaam have standing defects that make connecting a call in the city difficult, a survey undertaken by the *Daily News* over the weekend revealed.

They include those at key installations like the Muhimbili Medical Centre (MMC), the Tanzania Electric Supply Company (TANESCO) and the National Bank of Commerce (NBC) headquarters.

Also difficult to get through, is the former community building now occupied by the head offices of the income tax and customs and excise duty departments.

Both the Kilimanjaro and New Africa hotels are very hard to get — joined in that category by the head office of Air Tanzania corporation.

A survey by the *Daily News* last week pointed to a common problem — lack of spare parts.

Telephone operators at the customs building said lights on their key board blinked off almost a year ago, adding that some lines were jammed.

The reply was more-or-less the same everywhere, with the operators pointing out that the defects had been reported to the Posts and Telecommunications Corporation but they always told them that there were no spares.

ATC for instance, had 10 lines but all calls had to be channelled through one major line. Before transfer of the first call, to an extension, it was learnt, no other call could be attended to.

Thus callers either heard an engaged tone or the more infuriating connecting tone but no response!

The customs switchboard with 20 lines and nearly 300 extensions, could not even tell how many lines were working or not.

Picking phone calls, in the absence of lights, had become a matter of pressing a button by chance and only to receive a "hello" from the other end. "But there is completely no way to tell that a call had connected", the operator said.

CSO: 5500/5601

ZAIRE

BRIEFS

KINSHASA, LUSAKA FORM LINK--During a meeting of technical experts held this month in conjunction with the 15th subregional conference of the African Telecommunications Union in Gaborone, Botswana, Zaire and Zambia were chosen to serve as points of interconnection in the telecommunications network between southern Africa and west Africa. According to (Jigui Samoro), the divisional officer in charge of information at the union's headquarters in Kinshasa, the countries represented at this meeting discussed the importance of connecting southern Africa and west Africa through Zaire and Zambia because of their geopolitical position. The Kinshasa-Lusaka telecommunications link is of imperative necessity because the realization of such a very important axis would make it possible for island countries like the Seychelles, Mauritius and Madagascar to have easy access to the other African subregions. Zaire and Zambia have expressed their reciprocal desire to make every effort to ensure the execution of this project. On the other hand, the third subregional conference of the union adopted many resolutions, including in particular one relating to the creation of a multi-national higher institute of telecommunications in Nairobi, Kenya. [Text] [AB251150 Kinshasa Domestic Service in French 0600 GMT 25 Sep 81]

CSO: 5500/5602

ZIMBABWE

BRIEFS

TELEVISION EXTENDS TRANSMISSION AREA--The ZBC will be transmitting its evening news on television on a national basis to include Bulawayo as from tomorrow, 1 October. A spokesman for the ZBC said the system would give viewers served by Bulawayo studio an up-to-date television news bulletin each evening. He said the new system has been implemented using a [word indistinct] micro-wave length now available for this purpose. [Text] [CA021544 Salisbury Domestic Service in English 1600 GMT 30 Sep 81]

CUBAN NEWS AGREEMENT--The chairman of the Mass Media Trust, Dr Davidson Sadza, signed an agreement on behalf of Ziana with the Cuban news agency, PRENSA LATINA, in Salisbury yesterday. The Cuban ambassador, Mr Teofilo Acosta (right), signed the agreement for the Cuban news agency. It allows for an exchange of all news reports, articles and photographs. Mr Acosta said that the agreement was particularly relevant at a time "when South Africa invades and occupies part of the Angolan territory, attacks the Namibian people and its legitimate representative, SWAPO, and one way or another is carrying out acts of aggression against all the frontline states." [Text] [Salisbury THE HERALD in English 26 Sep 81 p 3]

CSO: 5500/5604

## FIRM DEVELOPS ADVANCED MOBILE TELEPHONE

Copenhagen BERLINGSKE TIDENDE in Danish 8 Sep 81 p 6

[Article by Finn Knudstrup: "Danish Firm Has the Mobile Telephone of the Future; AP Radiotelpon Doubles Its Volume and Becomes a Big Exporter"]

[Text] A telephone for an automobile with push-button calling for domestic and foreign calls, a number memory and automatic switching if one is not nearby is one of the top novelties from Danish firms at the HI-81 Fair in Herning.

The firm which is responsible for what is probably the most advanced mobile telephones to date is AP Radiotelpon, and its history is the history of two self-taught "kitchen-table mechanics", Anthon Petersen and H. Steffensen, who constructed the first Danish taxicab radio 25 years ago. Ten years after that, production of closed-circuit mobile radios on a rather large scale was started in a hayloft on a farmstead at Hvidovre. Later on, the two pioneers' capital was increased by the Philips concern, which now controls AP Radiotelpon, so that they could develop new products--data-controlled navigation gear and generally-available mobile telephones. Nevertheless, the firm continues to be Danish and its production plant, with about 300 employees, is located at Amager. Since AP Radiotelpon was taken over by Philips in 1978, its activities and volume have doubled, and they are expected to double again as early as next year, when the mobile telephone of the future will be on the market in earnest, not only for Danish customers but for motorists in many lands, since from 65 to 70 percent of the production at Amager goes abroad.

Production figures are confidential since the firm's merger with Philips. However, the firm's sales manager, Karl Johan Morck, says, "We are very Danish, and we rarely see a Dutchman."

AP Radiotelpon, in sharp competition with other firms with names like Storno and Siemens, is showing what it has to offer in the way of a mobile telephone of the future at the Herning fair. Naturally, the AP people think their Danish mobile radio is the best.

It is shaped like a telephone receiver with push buttons and a digital screen which one holds. The idea is that the receiver is mounted on a magnetic holder in the automobile and remains there until one has pushed the desired number and seen the indication on the digital screen that the apparatus is ready to be used. Then the receiver is brought to one's ear or the apparatus is connected for conversation with than free hands by using a loudspeaker and microphone in the automobile.

To make calling easier and safer when operating in traffic, the telephone has a number memory of 60 numbers. Thus, one's firm can be assigned the number 1, even if it is located outside the country. The telephone makes the call automatically. Calls to the driver come in automatically, but if he or she is out of the vehicle, the telephone has a code setting by means of which the conversation can be switched automatically--for example, to the callee where he is one of the people attending a meeting.

With a couple of handles, the telephone apparatus can be moved to a pleasure boat, a summer house or a carrying bag.

The price is 17,980 kroner, complete and installed.

AP Radioteléfono also has another technological breakthrough in Herning--the so-called Navigator, a piece of apparatus which operates in a complicated manner. It states the latitude and longitude at any one moment on a digital screen inexpensively. This apparatus can make a navigator out of any amateur sailor since data-processing technology takes care of all calculations.

What is novel about this apparatus is that it measures the boat's location in relation to Decca stations. Since the device measures every 20 seconds, it can provide the speed (in relation to the sea floor and consequently to the chart, too) at any given time, and it also can calculate the time of arrival and give instructions on course corrections. That is just because it does not measure like a log but in accordance with given points on land. The price is a little less than 20,000 kroner.

AP Radioteléfono's third activity is telephones for a closed radio network--typical taxi radios, which constituted the beginning and all along have been the nucleus of the firm's development and success.

#### Selling Sand in the Sahara

In that field, AP now has so much experience that it can mingle with the giant enterprises of the world. Thus, the firm has just--sensationally--obtained an invitation to submit tenders in Hong Kong for 400 mobile telephones for the local electric power company. There was heavy competition from Japanese firms, but the Danes acquired the order on the basis of quality, even though AP was one of the most expensive tenderers of offers.

After that achievement, which can almost be compared with selling sand in the Sahara, there is a great deal of self-assurance and confidence in the future of the Danish electronic industry in the "Amagercan" firm.

9266  
CSO: 5500/2306

DENMARK

BRIEFS

NORTH SEA PLATFORM EARTH STATION--Arcodan Antenna Systems Inc., Sønderborg, 63 percent of the shares of which is owned by the pension funds, has developed an earth station with good future prospects for joint antenna systems in which there is now a great interest abroad. While a number of existing joint antenna systems cannot be expanded without considerable technical changes, the new Arcodan system will receive radio as well as TV signals from satellites, and it has also been equipped for local TV and local radio broadcasts. Two earth stations have been delivered to Holland, which has very strict technical requirements for approval. The earth stations receive 7 TV programs and 16 FM programs, but they may be expanded to 18 TV and 32 FM programs. There is a picture on all programs night and day since there is an automatic change-over to video or a picture generator with a fixed picture when there are no broadcasts. The station which has been developed over a fairly long period of time, meets the most recent requirements of the postal and Telecommunications Services of 1 July 1981. Arcodan is the only Danish producer of electronic equipment for joint antenna systems.  
[Text] [Copenhagen BERLINGSKE TIDENDE in Danish 24 Sep 81 p 3] 7262

NEW EARTH STATION TYPE--The Finance Committee of the Folketing has granted upwards of 19 million kroner for a satellite station which will be placed on the platform Tyra East in the North Sea. It will cover the communications needs in connection with the search activities and the oil and gas production in the North Sea and will be connected with a station at Blåvand via satellite. The state will have the investment paid back over 5 years. [Text] [Copenhagen BERLINGSKE TIDENDE in Danish 28 Sep 81 pt III p 1] 7262

CSO: 5500/2006

GREECE

## ILLEGAL RADIO STATIONS LOCATED

Athens ATHENS NEWS in English 18 Sep 81 p 4

[Text] OVER 30 "pirate" amateur radio stations were located and closed down by specialized crews from the Ministry of Transportation in the first half of September, a Ministry announcement said yesterday.

The announcement said the action was taken because the stations, broadcasting in frequencies outside the range reserved for radio amateurs, interfered with telecommunications and were a hazard to air traffic, as they often interfered with communications between the control tower and landing or taking off pilots.

Most of the stations' owners, the announcement continued, were youths having electronics as a hobby, who were not aware of the potentially serious consequences of running an illegal radio station.

The Transportation Ministry communiqué called on parents to exercise more careful supervision of their children's activities, and reminded the public that the penalties for operating an illegal radio station are strict: at least one year imprisonment and a 200,000-500,000 drachmas fine.

CSO: 5500/5302

NETHERLANDS

USSR TELEVISION STATION RECEIVED BY SATELLITE

Rotterdam NRC HANDELSBLAD in Dutch 3 Sep 81 p 1

[Text] Eindhoven, 3 September--In cooperation with the Technical University in Eindhoven and the Swedish Institute of Technology, an engineering firm in Beek built a television reception station which makes it possible to receive satellite television in the Netherlands. With the help of the receiving station yesterday evening station Veronica showed pictures directly from Russian television on the Nederland 2 network.

The signal came from the Russian broadcasting satellite Gorizont, in operation since the end of last year. Gorizont brings only the programs of Moscow I, but it can take care of more programs.

Gorizont is also directly connected with the Moscow press center which can be used for teletexts.

According to Dr H Kivits of the engineering firm, it is relatively simple and inexpensive to link the satellite TV up with the cable network of the central antenna tower. "To receive a satellite program the central reception station needs only some additional equipment. In financial terms this means that subscribers to the central antenna station will only be requested to pay about 1 percent more for their subscription fee."

Kivits assumes that there are no legal objections to connecting the Russian programs to a Dutch network. According to the radio regulations in the Act on Telephone and Telegraph, only satellite programs intended for public reception may be seen in the Netherlands. Gorizont's broadcasts comply with this requirement.

A short time ago the American owner of a cable network was not allowed to show programs of the French OTS satellite because they were meant to be experimental.

The engineering firm predicts great possibilities for its reception equipment. Within a few years Germany and France, and perhaps also Great Britain, will launch satellites for public use. With minor adjustments to the equipment their programs could easily be seen in Dutch living rooms.

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CSO: 5500/2305

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